

Unit 2 Review: (Study Guide)

I. Atomic Mass (average) \rightarrow mass of all isotopes in the world averaged together

Atomic number \rightarrow number of protons
~~A~~ when you change this, you change the element

Mass number \rightarrow mass of a specific isotope of element

calculate by adding p^+ and n^0

Isotope \rightarrow atom with different number of neutrons

Ion \rightarrow atom with different number of electrons than a neutral atom

Valence electrons $\rightarrow e^-$ in outermost orbital (energy level)

II.

1. p^+

2. nucleus always has a positive charge

3. number of p^+ = number of e^-

4. e^- are arranged in energy levels (orbitals, shells) and sub-orbitals

5. Atomic number \rightarrow whole number
lower number

6. (Average) Atomic mass \rightarrow
has decimals
larger number

These always have decimals because
it is an average.

7. number of p^+ , if neutral atom
also know number of e^-
8. mass number will be within \pm }
of (average) atomic mass
9. e^- move randomly within
their energy level/sub-orbital.
orbit is a set thing, set by
a mathematical equation.

III.

10. mass number

11. same for all Mg atoms → look up on periodic table

12. a. different number of neutrons

b. isotope

c. Manganese-55

Manganese-56

mass # → 55
atomic # → 25

Mn^{+1} ← charge

14/15. cation → positively charged atom

more protons than electrons

16/17. anion → negatively charged atom

more electrons than protons